Possessing variation: age and inalienability related variables in the possessive constructions of two Australian mixed languages

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The paper examines attributive possessive constructions in two north Australian mixed languages, Gurindji Kriol (GK) and Light Warlpiri (LW). In both languages possessive constructions are drawn from the source languages, Gurindji, Warlpiri, Kriol and English, and there is variation within and between languages. The range of possessive forms available in the two languages are presented and factors contributing to the variation within each language are discussed, including age of speaker, the remnants of an in/ alienability distinction, and the source language of possessive forms and head NPs.

1. Introduction

This paper will examine attributive possessive constructions in two north Australian mixed languages, Gurindji Kriol (GK) and Light Warlpiri (LW). It will consider possible possessive variants and factors which contribute to these different phonological forms and grammatical structures, such as age of speaker, the remnants of an in/ alienability distinction, and the source language of possessive forms and head NPs. Gurindji Kriol and Light Warlpiri are mixes of Ngumpin-Yapa languages, Gurindji or Warlpiri respectively, two traditional languages of the Victoria River District and North Tanami Desert region of Northern Australia; Aboriginal English and an English-based Creole, Kriol, which is spoken across the Top End of Australia (McConvell 2002; McConvell and Meakins 2005; O’Shannessy 2005). GK and LW exhibit splits along VP-NP lines which are similar to the structure of another mixed language, Michif (Bakker 1997; Bakker 2003). In both GK and LW the traditional language dominates the NP structure of the mixed language, and Kriol dominates the VP structure. From this split, it might be expected that possessives draw most of their allomorphic and grammatical structures from the Ngumpin-Yapa language. Whilst this is true of the allomorphy for dative and possessive markers, factors such as the loss of the in/ alienability distinction ensure that there is a great deal of variation in GK and LW possessive constructions. There is also considerable variation in the possessive constructions between GK and LW, which is interesting given the similarity of their typological make-up. This paper will map this variation by firstly describing the origin and character of Gurindji Kriol and Light Warlpiri (Section 2), outlining the possessive constructions available in Gurindji, Warlpiri and Kriol (Section 3), and finally examining how these constructions influence the possessive variants in GK and LW (Section 4).

The data for this study is derived from two related projects. The Gurindji Kriol data comes from three years of data collection in Kalkaringi and Daguragu communities as a part of the Aboriginal Child Language Acquisition (ACLA) project. The Light Warlpiri data was collected in Lajamanu Community between 2001 and 2004. Together the data consists of over 140 hours of language in a number of social contexts and registers including formal narratives, peer conversation, child directed speech, card games designed to elicit possessive constructions, and other elicited production data. In all, over 60 speakers aged from 4-64 years have contributed data for this study.
2. Two north Australian mixed languages

Gurindji Kriol and Light Warlpiri are spoken in northern Australia within 100kms of each other. The two main communities where these languages are spoken are Kalkaringi (GK) and Lajamanu (LW). There is considerable contact between the two communities, for social, family and cultural reasons. The map below shows the proximity of the languages and their use relative to the traditional languages spoken in the same geographic area.

![Map of the languages of the Victoria River District and North Tanami](image)

Gurindji Kriol is spoken by Gurindji people in the Victoria River District (VRD) of the Northern Territory. It originated in Kalkaringi and Daguragu, however GK has spread north and is now spoken as the main language by many Bilinaara and Ngarinyman people. GK originated from contact between non-indigenous colonists and the Gurindji people. In the early 1900s, white settlers set up cattle stations in the VRD area, including the homelands of the Gurindji. After an initial period of violent clashes, Gurindji people began to work on the cattle stations as stockmen and kitchen hands. The lingua franca spoken by station owners and the Gurindji was pidginised English. This language was added to the linguistic repertoire of the Gurindji and included in their code-switching practices. It is quite likely that GK has its origins in the code-switching practices of Gurindji people in the 1970s, which included a lot of Kriol by this stage (McConvell and Meakins 2005). Nowadays all Gurindji people under 35 speak GK as their first language. The older members of this group also speak Gurindji, and younger GK speakers have a reasonable level of passive knowledge. Gurindji has become an endangered language, with around 175 elderly speakers remaining of the 700 people who identify as Gurindji (Lee and Dickson 2003). GK is now the dominant language in most social domains, though English is used at school and in meetings involving English-only speakers.

Light Warlpiri is spoken by Warlpiri children and adults under 30 years old in Lajamanu Community, so has emerged within the last 30 years. The name Light Warlpiri is what older adults in Lajamanu call the way the children and younger adults speak. LW speakers themselves refer to it by the name ‘Lajamanu style’, indicating that it identifies Lajamanu Warlpiri speakers as separate in some way from Warlpiri speakers in other communities. LW speakers also speak Warlpiri, but use LW as the main language of their everyday talk. Warlpiri itself has about 3,000 speakers (Laughren, Hoogenraad, Hale and Granites 1996) and is spoken in several Central Australian communities. In Lajamanu, younger adults commonly code-switch into Warlpiri, but children do so much less. LW has an auxiliary paradigm which draws on Warlpiri and Kriol, with an innovative sub-paradigm which is not found in any of its source languages. Use of this auxiliary paradigm, combined with Kriol verbs and verb morphology (plus a small set of Warlpiri verb stems with Kriol transitive suffixes), is diagnostic of LW.

As stated in the introduction, both Gurindji Kriol and Light Warlpiri are split N-V mixed languages (Bakker 2003:122). Much of the verb phrase in Gurindji Kriol and Light Warlpiri, including the tense-aspect-mood and transitive
morbidity, is derived from the colonising language, Kriol, with the traditional languages, Gurindji and Warlpiri, providing much of the structure for the NP including case and derivational inflection.

In both Gurindji Kriol and Light Warlpiri lexical items are drawn relatively evenly from the source languages. Based on a Swadesh list count, 36.6% of words in GK are Kriol-only forms, 35% Gurindji-only forms, and the remaining 28.4% contains synonymous forms from both languages which are used interchangeably depending on a number of sociolinguistic factors including group identification and the age of the addressee. For example, the Gurindji form for ‘jump’ tipart may be chosen if the speaker is addressing an older person, whereas the Kriol form ‘jam’ may be used in conversation with peer groups or younger people. There is also a high level of language variation within word classes which contain both Kriol and Gurindji words. These classes include adjectives, nouns for people, animals, food, fire and cooking, interjections, quantifiers and, importantly for this paper, possessives. Despite this mix, some generalisations can be made. For example, focus pronouns, grandparent kin names, body parts nouns, verbs of motion, state, impact, and bodily functions, and plant names all come from Gurindji. Kriol contributes most conjunctions, counting numerals, colours, directionals, question words and basic meaning verbs.

A Swadesh list count in Light Warlpiri shows that 43.9% of items are drawn only from Kriol, 37.6% only from Warlpiri and 18.5% are synonymous forms from both languages. Included in this last category is the small set of verbs which have a Warlpiri verb stem and a Kriol transitive suffix. Figure 2 presents the distribution of Swadesh list items from the source languages. As in Gurindji Kriol, a Light Warlpiri speaker may use more items drawn from Warlpiri when speaking to an older person who is speaking Warlpiri.

![Figure 2: Distribution of source language items (Swadesh list) in GK and LW](image)

The following excerpt demonstrates some aspects of the grammatical and lexical structure of Gurindji Kriol. The speaker is a 19 year old telling a story to her 2.5 year old son. Gurindji elements are italicised, with possessive forms bolded.

(1) (a) Leyton-tu partaj tri-ngka.
    Leyton-ERG climb tree-LOC
    ‘Leyton climbs up a tree (using a ladder).’

(b) wamara i bin trai gedim kankulak tri-ngka.
    rock 3sg PST try get-TRN up tree-LOC
    ‘He wants to try and get the rock up in the tree.’

(c) binij Shadow kirt leg. i bin baldan an jumpirrk Shadow
    that’s.all Shadow break leg 3sg PST fall CONJ squash Shadow
    ‘But that’s it, Shadow (his dog standing under the ladder) breaks his leg. The ladder fell down and squashed Shadow.’
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(d) imin kirt nyanuny leg. Shadow langkarra ankaj.
3g=PST break 3sg.DAT leg Shadow cry poor thing.
'It broke his leg. As a result, Shadow cries, poor thing.

(e) i bin trai partaj igin, bat laitining-tu na,
3sg PST try climb again but lightning-ERG DIS
'Leyton tried to climb up again, but this time the lightning ...

(f) nyanuny wartan-ta i bin straikim nyanu.
3sg.DAT arm-LOC 3sg PST strike 3sg.
'... struck him on the arm, it hit him.'

In this example, the verbal frame is Kriol with basic meaning verbs 'ged', tense 'bin' and transitive marking '-im' all deriving from this language. Gurindji case marking is also present—ergative -ngku/-tu, locative -ngka/-ta. Lexically there is a mix between Kriol and Gurindji with some verbs derived from Kriol, 'straikim', and others from Gurindji, for example partaj, langkarra. Similarly both Gurindji and Kriol nouns are present—'laitining', 'tri', 'leg', wartan and wumara. Despite these patterns, the other dominant feature of Gurindji Kriol which is present in (1) is variation. Ergative markers are variably employed, the past tense marker is sometimes encliticised with the subject pronoun, and possession is expressed by three different constructions:

(2) Shadow kirt leg.
NAME break leg
'Shadow (the dog) breaks his leg'

(3) imin kirt nyanuny leg.
3g=PST break 3sg.DAT leg
'He breaks his leg'

(4) nyanuny wartan-ta i bin straikim
3sg.DAT arm-LOC 3sg PST strike-TRN
'It was on his arm, the lightning struck'

These three examples do not represent the full range of possessive constructions which exists in Gurindji Kriol. Section 4.1 examines this repertoire used by GK speakers, demonstrating that despite the variation, patterns begin to emerge relating to the age of the speaker, and the inalienability of the possessed from the possessor.

The following examples are from LW. Warlpiri elements are in italics, and possessive forms are in bold.

(5) (a) Nangala nyiinta-ra-kurlangu inya luk inya Nungarrayi-ping-kang
skin.name 2sg-pl-POSS there look there Nungarrayi-assoc-POSS
'Nangala those are yours, look, those belonging to Nungarrayi's group.'

(b) cents nym-nyang i-m stuck nyang-rla
money 2sg-POSS 3sg-NFUT stuck here-LOC
'Your money is stuck in here.'

(c) gim-me is rdaka, kuja
give-1sg 3sgPoss hand thus
'Give me his hand, like this.'

(d) go der inya you house-kurra
go there DEM you house-ALL
'Go there, there, to your house.'

The examples in (5a)-(5d) demonstrate some of the possessive constructions in LW. Example (5a) shows the use of Warlpiri possessive case-marker -kurlangu, and the more recent shortened form, -kang. Example (5b) provides an example
3. **Possessive Constructions in GK and LW's contributing languages**

Between Gurindji, Warlpiri and Kriol, there are many different structures available to Gurindji Kriol and Light Warlpiri. The table below summarises these constructions and the forms that are found in GK and LW. The following sections contain detailed discussions of the Gurindji and Warlpiri (3.1), and Kriol (3.2) forms.

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Construction</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Possessor Marked Constructions</td>
<td>NP-DAT/POSS/BO + (NP&lt;sub&gt;head&lt;/sub&gt;)</td>
<td>Gurindji (-DAT), Warlpiri (-POSS), Kriol (-bo in West), GK (-DAT/-bo) and LW (-POSS)</td>
</tr>
<tr>
<td>A2</td>
<td>Pro-DAT/POSS/BO + (NP&lt;sub&gt;head&lt;/sub&gt;)</td>
<td>Gurindji (-DAT), Warlpiri (-POSS), GK (-DAT/-bo) and LW (-POSS)</td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>possessive Pro (NP&lt;sub&gt;head&lt;/sub&gt;)</td>
<td>English, Kriol, LW</td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>CAT/AUX-Pro, (NP) NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>Gurindji, Warlpiri, Kriol, GK and LW</td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>NP + NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>Kriol, GK</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Ellided possessor constructions</td>
<td>0-NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>Warlpiri, LW</td>
</tr>
</tbody>
</table>

3.1 **Gurindji and Warlpiri**

Like most Australian languages, Gurindji and Warlpiri distinguish relationships between entities using two distinct possessive constructions (McConvell unpublished:92-94). The first type of the possession marks inalienable relationships, "an indissoluble connection between two entities" (Chappell and McGregor 1995:4). These part-whole relationships generally involve inherent or unchangeable relationships between the possessor and possessed, such as the relationship between animate entities and their body parts, kin relationships, spatial relations and closely associated objects such as tools. While inalienable constructions mark an intrinsic relationship between two entities, distance and free association is represented in alienable structures. Grammatically there is a typological tendency for alienable nouns (either the head or possessor) to be marked, often morphologically, and inalienable nouns to be unmarked (Heine 1997:172). This type of construction is common in Australian languages (Dixon 1980:293; Nicholls 1992:118).
Firstly alienability in Gurindji is expressed by a possessor phrase consisting of a head and a dependent dative-marked NP which takes on the role of the possessor, as in (6). Possessors may also be expressed using a pronoun from the set of dative pronouns (7).

(6) kartipa-wu yami kula-n kalp man-ni. (A1)
whitefell-DAT law NEG-2sg catch get-PST
‘You haven’t caught up with European law.’

(7) wanka-wankaj ngu-lu nyawa-ma yarrularn-ma ngantipa-ny. (A2)
bad-REDUP CAT-3pl this-TOP young-TOP 1plex-DAT
‘Our young people are no good.’ (McConvell unpublished:114-15)

Similarly, in Warlpiri, alienability is expressed by a possessive-marked NP. There are two forms of marking, one for free pronouns (-nyangu), as in (8), and one for nouns (-kurlangu/-kirlangu) as in (9). The second form is often shortened to -kang, as in (10).

(8) kala Ayala-ng kapu-Ø ka-nyi kurdu nyamungu-nyangu gen mayi? (A2)
DISJ name-ERG FUT-3sg take-NPST child 3sg-POSS also INTRR
‘But is Ayala going to take her child too?’

(9) wirliya-Ø-Ø rarralykaji-kirlangu wilypi-ma-ru. (A1)
wheel(lit:foot)-3sg-3sg car-POSS remove-PST
‘(He) removed the wheel of the car.’

(10) nati-Ø kaja ma-ru Nungarrayi-kang (C1)
neg-3sg thus get-IMP skin.name-POSS
‘Don’t get it like that, it’s Nungarrayi’s!’

Inalienable possessive constructions in Gurindji and Warlpiri are morphologically unmarked. Typically body parts are the main entities inalienably possessed, however other objects including shadows are also inalienable nouns (McConvell unpublished:93). Examples (11) and (12) are from Gurindji, and example (13) is from Warlpiri. Example (12) is an interesting example of parallel constructions, the first example is an unmarked structure, and the second uses a parallel locative construction. In all of these constructions the possessor is a dependent of the verb, rather than the possessed. These constructions can be analysed in terms of external possession which is discussed below.

(11) jama-na nyawa-ma kala-kayarra-ma yaarp-yaarp ngu-nalu karri-nya.
leg-TOP this-TOP thigh-two-TOP energetic CAT-1plex be-PST
‘We are energetic in our legs, these two thighs.’ (McConvell unpublished:113)

(12) (a) majul ngu-yi-Ø turrp pangama.
stomach CAT-1sg,ACC-3sg pierce poke-PST
‘lit: He stabbed me stomach.’

(b) majul-la ngu-yi-Ø turrp pangama.
stomach-LOC CAT-1sg,ACC-3sg pierce poke-PST
‘He stabbed me in the stomach.’ (McConvell p.c.)

(13) rdaka ka-ru yuka-mi ngalya-kurra ngaju.
hand AUX.PRES-1s enter-NPST burrow-ALL 1sg
‘I am sticking my hand into the (goanna’s) burrow.’ (Hale 1981)
Table 2: Gurindji and Warlpiri possessive structures

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Construction</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Gurindji</td>
<td>Dative</td>
<td>NP-DAT NP_{head}</td>
<td>kartipa-wu yumi</td>
</tr>
<tr>
<td></td>
<td>Constructions</td>
<td></td>
<td>whitefella-DAT law</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'European law'</td>
</tr>
<tr>
<td>A2 Gurindji</td>
<td>Pro-DAT NP_{head}</td>
<td></td>
<td>yarradarn-ma ngantipa-ny</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'Our young people'</td>
</tr>
<tr>
<td>A1 Warlpiri</td>
<td>Possessive</td>
<td>NP-POSS NP_{head}</td>
<td>example (10)</td>
</tr>
<tr>
<td>A2 Warlpiri</td>
<td>Constructions</td>
<td>PRO-POSS NP_{head}</td>
<td>example (8)</td>
</tr>
<tr>
<td>B1 Gurindji</td>
<td>Apposition</td>
<td>CAT/AUX-Pro, (NP) NP_{head}</td>
<td>example (11), (12a), (13)</td>
</tr>
<tr>
<td>and Warlpiri</td>
<td>Constructions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5 Gurindji</td>
<td>Locative</td>
<td>V_{impert} + Pro_unmarked +NP_{head} +LOC</td>
<td>example (12b)</td>
</tr>
<tr>
<td>and Warlpiri</td>
<td>Constructions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is argued that inalienability can be marked at the clause level through a process of possessor raising (Tsunoda 1995). For example, in English only body parts and some closely associated objects such as clothes may exist in a locative construction which marks inalienable possession:

(14) John kissed Mary's lips.

(15) John kissed Mary on the lips. (Tsunoda 1995:590)

In (14), the possessor 'Mary' is expressed as dependent of its head 'lip', but in (15) 'Mary' has been structurally raised to become a dependent of 'kissed'. Though (14) and (15) are structurally related, there is some doubt about the meaning equivalence of these constructions (Utol 1963:30; Blake 1984:438; Blake 1990:102). The act of kissing in (15) seems to affect Mary more intimately than (14), as the lips seem somewhat disembodied from Mary in (14). This phenomenon is variably called external possession (Payne and Barsh 1999), possessor raising (Munro and Gordon 1982:95), possessor ascension (Chappell and McGregor 1995) or possessor specification (Heine 1997:167), depending on the theoretical paradigm adopted, and whether a derivational process, e.g. transformation, is assumed, or whether the resultant structure is merely being described.

It has been claimed that many Australian languages also distinguish alienability clausally by possessor raising. Blake (1984:445) frames this process within Relational Grammar as a movement from an initial stratum to a realised second stratum. He uses examples from Kalkatungu to demonstrate this ascension. Like Gurindji, the possessor and head are unmarked and in apposition. Blake suggests that the possessor is a dependent of the head underlyingly, and it raises out of this possessor phrase to become a dependent of the head of the clause, which is the verb. It is not the aim of this article to provide syntactic argumentation for external possession in Gurindji, Warlpiri and their mixes, but by analogy with Kalkatungu and other languages such as Jaru (see below), we make a similar analysis for Gurindji and Warlpiri inalienable possessive constructions where the bound pronoun is arguably a dependent of the verb, not the head of the possessor phrase (examples (11), (12a) and (13), including the locative construction (12b)). Interestingly, Jaru, a Ngumpin language closely related to Gurindji and Warlpiri, displays parallel possessive structures to Kalkatungu, however Tsunoda is "not certain whether such an analysis [possessor ascension] is adequate for Djaru" (1995:599). No reasons are given for this doubt, nor is an alternative explanation provided. The analysis of possessor ascension will become important later on in examining the continuation of the Gurindji and Warlpiri in/alienability distinction in the derived mixed languages.
3.2 Kriol

The most common possessive construction in Kriol involves a possessor followed by a preposition ‘bla(nga)’ or ‘fo’. The position of the head NP is somewhat variable as demonstrated in Table 1. Possession may also be expressed through apposition, where the possessor and possessed are simply juxtaposed to represent their relationship. Kriol pronouns do not have a separate set of possessive pronouns, the exception is the 1sg pronoun ‘mai(n)’. Sandefur (1979: 89) suggests that pronoun possessors must express possession through apposition or the ‘blanga’ preposition, as there are no independent possessive pronoun forms (except ‘main’). Alternatively, ‘main husben’ and ‘im husben’ could be equivalent forms, where both pronouns express possession, and ‘im husben’ is not simply a case of apposition. Unfortunately it is not possible to test whether im expresses possession in the same way as ‘main’.

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Construction</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Possessor Marked</td>
<td>NP-BO+NP_{head}</td>
<td>Larry-bo waif</td>
</tr>
<tr>
<td></td>
<td></td>
<td>possessivePro + NP</td>
<td>(found west of Katherine)</td>
</tr>
<tr>
<td>A3</td>
<td></td>
<td></td>
<td>mai/n hasben</td>
</tr>
<tr>
<td>B1</td>
<td>Apposition</td>
<td>NP+NP_{head}</td>
<td>Shila fatha</td>
</tr>
<tr>
<td>B2</td>
<td></td>
<td>Pro+NP_{head}</td>
<td>im fren</td>
</tr>
<tr>
<td>D1</td>
<td>Locative Possessive Constructions</td>
<td>langa + NP_{head}</td>
<td>imin kilim langa leg</td>
</tr>
<tr>
<td>D2</td>
<td></td>
<td>langa+Pro/NP + NP_{head}</td>
<td>imin kilim langa im leg</td>
</tr>
<tr>
<td>D3</td>
<td></td>
<td>Pro/NP+langa + NP_{head}</td>
<td>im kilim im leg</td>
</tr>
<tr>
<td>E1</td>
<td>Possession Preposition Constructions</td>
<td>NP_{head}+blanga+NP</td>
<td>drak blanga Jerimiah</td>
</tr>
<tr>
<td>E2</td>
<td></td>
<td>NP_{head}+blanga+Pro</td>
<td>drak blanga im</td>
</tr>
<tr>
<td>E3</td>
<td></td>
<td>blanga+NP+NP_{head}</td>
<td>bla ogamen motika</td>
</tr>
<tr>
<td>E4</td>
<td></td>
<td>blanga+Pro+NP_{head}</td>
<td>fo dat Samson-mob station</td>
</tr>
</tbody>
</table>

N.B. ‘Blanga’ in Table 3 may be expressed as ‘blanga’, ‘bla’, ‘bi’, bo or fo depending on the dialect. ‘Bo’ and ‘fo’ are considered more acrolectal versions of blanga. Data from ACLA Project, Gurindji-Kriol.

Sandefur’s work is based in the Roper area of the Northern Territory, commonly thought to be the birthplace of Kriol. Other possessive Kriol constructions do exist in other parts of the Top End. In the Kimberley, another form ‘John bla buk’ (A1) exists, where the Kriol preposition become postposed to the possessor. Hudson (1983:71-72) claims that this structure is due to the substrate influences of the surrounding traditional languages. A similar form has been reported in the Kriol spoken in the Timber Creek area north of Kalkaringi (see Figure 1), ‘Larry-bo waif’ (Charola 2002:8). Charola also claims that this form is due to the substrate influence of Ngumpin languages, such as Gurindji which mark possession using a dative marker on the possessor, as shown above.

Sandefur makes no claims about Kriol marking any distinctions between alienable/inalienable noun groups. This distinction exists in the substrate languages of this variety of Kriol, where apposition constructions are used for body part possession and kin relationships. NP NP Apposition constructions (B1) only seem to express kinship relationships in Kriol such as ‘Shila fatha’ and house ownership, e.g. ‘Shila kemp’, and Kriol also uses the English-like locative construction (see example (15)) for expressing a part-whole relationship between body parts and their owners. It is not known whether similar constructions existed in the substrate languages. There is quite a lot of variation between the Kriol locative forms:

(16) \[ \text{im\_{in}} \text{ kilim langa\_{leg}} \quad (D1) \]
\[ 3\text{sg}=\text{PST} \text{ hit-TRN PREP leg} \]
‘He hit (him) in the leg.’
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(17)  imin kilim langa im leg (D2)
3sg=PST hit-TRN PREP 3sg leg
‘He hit (him) on his leg.’

(18)  imin kilim im langa leg (D3)
3sg=PST hit-TRN 3SG PREP leg
‘He hit him on the leg.’

Each of these constructions roughly expresses the same meaning as ‘He hit my leg’ (A3). Structures, such as D3 (18) are the result of possessor ascension where the possessor becomes a dependent of the verb rather than the head, ‘leg’, as in the English example above (15). Therefore in these constructions body parts are marked inalienable in Kriol at the clausal level. However it would be hard to argue that Aboriginal concepts of inalienability have been carried over from the substrate Australian languages and replicated within an English/Kriol structure. As was discussed above, English uses a similar construction for body parts. Counter evidence for the continuation of Aboriginal concepts of inalienability in this variety of Kriol would be the use of these Kriol locative constructions for clothing which is marked inalienably in the English in possessor raising constructions, e.g. ‘He grabbed me by the shirt/He grabbed my shirt’. No evidence is available as to whether these constructions are possible.

4. Possessive allomorphy and constructions in GK and LW

4.1 Possessive Allomorphy in Gurindji Kriol

In Gurindji, the dative marker appears in allomorphic variation, -wu, -ku and -u. The -wu form appears after vowel final stem, -ku after a consonant final stem, and -u when the stem ends with a liquid. Some speakers (Group 1) of Gurindji Kriol maintain this allomorphic variation, with the added innovation of a -yu allomorph after back vowels. However other GK speakers (Group 2) have formed a new system of allomorphy which maintains the same distinctive environments as Gurindji, but which uses different forms—yu for vowel final stems, and -tu for consonant final stems. The -tu is a curious form because it overlaps with the simplified consonant-final ergative form. However it is unlikely that the use of -tu as a dative indicates a conflation of these case markers, as this homophony is not extended into the vowel final allomorphs, -ngku (ergative) versus -yu (dative). Both groups have discarded the liquid distinction. Table 4 lays out the changes from Gurindji to Gurindji Kriol.

<table>
<thead>
<tr>
<th>Gurindji</th>
<th>Gurindji Kriol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vowel Final</td>
<td>Vowel Final</td>
</tr>
<tr>
<td>-wu</td>
<td>-wu/-yu</td>
</tr>
<tr>
<td>karu-wu</td>
<td>Group 1</td>
</tr>
<tr>
<td>child-DAT</td>
<td>karu-yu</td>
</tr>
<tr>
<td></td>
<td>child-DAT</td>
</tr>
<tr>
<td>warrija-wu</td>
<td>Group 2</td>
</tr>
<tr>
<td>crocodile-DAT</td>
<td>warrija-yu</td>
</tr>
<tr>
<td></td>
<td>crocodile-DAT</td>
</tr>
<tr>
<td>Consonant Final</td>
<td>Consonant Final</td>
</tr>
<tr>
<td>-ku</td>
<td>-ku</td>
</tr>
<tr>
<td>ngumpii-ku</td>
<td>Group 1</td>
</tr>
<tr>
<td>man-DAT</td>
<td>ngumpii-ku</td>
</tr>
<tr>
<td></td>
<td>lion-DAT</td>
</tr>
<tr>
<td>Liquid Final</td>
<td>-tu</td>
</tr>
<tr>
<td>-u</td>
<td>-tu</td>
</tr>
<tr>
<td>warrant-u</td>
<td>lion-DAT</td>
</tr>
<tr>
<td>fat-DAT</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Gurindji dative allomorphs
Variation between Group 1 and Group 2 only occurs between speakers, not within a speaker’s own repertoire. A Group 2 speaker will always use -ku, -ju, and -yu, and a Group 1 speaker will always use -tu and -yu. The distinction between these two Gurindji Kriol groups is age related, and can be demonstrated through the distribution of -tu and -ku allomorphs (the vowel final allomorphs cannot be examined due to an overlap between the two groups with the use of the -yu allomorph).

A survey of the Gurindji Kriol data described above in the introduction reveals 160 tokens of possession marked by the dative, 71 -tu and 89 -ku. There is an interesting distribution of these allomorphs between different age cohorts, grouped as follows: 0-5 yrs, 6-15 yrs, 16-25 yrs, 26-35 yrs, 36-50 yrs, and 51+ yrs. The oldest three groups all use -ku exclusively. The third age group, the young adults, show an even use of these allomorphs, however a marked increase in the usage of -tu can be observed in the school age group (16-25 yr olds). This would suggest that -tu is a relatively recent innovation of young Gurindji Kriol speakers. It also indicates that a majority of school age GK speakers use the Group 2 dative allomorphic variation as speakers who use -tu also use -yu as the sole vowel final allomorph. Half of young adults GK speakers use Group 1 allomorphic variation and the other half use Group 2 allomorphy. All speakers over the age of 26 seem to use Group 1 allomorphy exclusively.

![Figure 3: Distribution of consonant-final dative allomorphs across age groups](image)

### 4.2 Possessive Constructions in Gurindji Kriol

Table 5 shows the range of possessive constructions available in Gurindji Kriol. Each type is then discussed in turn.

#### 4.2.1 Kriol possession preposition constructions in Gurindji Kriol

The following example comes from a recording of a conversation between two 22 year old adults who are fishing:

(19) yapakari-wan hook bo nyawa i gat nojing warriti. (E1)
small-NUM hook PREP this 3sg has nothing goodness
‘Ah come on, the small hook is for this one (fishing line), it hasn’t got one.’

These types of possessive constructions, ‘prep-NP’, occur only rarely in Gurindji Kriol. Only 4 examples (0.5%) appear in the data. A couple of explanations may be offered for the scarcity of this structure. Firstly, the only two examples of a possessive relationship between two inanimate entities use this structure. Other languages mark this relationship using a different structure, for instance, English uses a possessive phrase ‘foot of the hill’ or ‘key for the room’. It is not clear from the available Gurindji or Kriol data whether a different structure is used for inanimate possessive relationships, and indeed the only other two examples of the C-Type Kriol construction involve an animate and inanimate relationship, e.g. ‘dat kimbi (nappy) bo Leyton’.
### Table 5: Possession constructions in Gurindji Kriol

<table>
<thead>
<tr>
<th>Type</th>
<th>Construction</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>NP-DAT NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>warlaku-yu minti</td>
</tr>
<tr>
<td></td>
<td>Dative Constructions</td>
<td>dog-DAT bottom</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘dog’s bottom’</td>
</tr>
<tr>
<td>A2</td>
<td>Pro-DAT NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>nyamany warlaku</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3sg-DAT dog</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘his dog’</td>
</tr>
<tr>
<td>B1</td>
<td>NP-Ø NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>kengkaru magul</td>
</tr>
<tr>
<td></td>
<td>Apposition Constructions</td>
<td>kangkaru stomach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘kangaroo’s stomach’</td>
</tr>
<tr>
<td>B2</td>
<td>Pro&lt;sup&gt;Kro&lt;/sup&gt; NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>im wartan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3sg hand</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘his hand’</td>
</tr>
<tr>
<td>C1</td>
<td>Zero constructions</td>
<td>Ø-NP&lt;sub&gt;head&lt;/sub&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bite-TRN foot</td>
</tr>
<tr>
<td>D4</td>
<td>V&lt;sub&gt;impact&lt;/sub&gt; Pro&lt;sub&gt;Gumbr&lt;/sub&gt; NP&lt;sub&gt;head&lt;/sub&gt;-LOC</td>
<td>baitim nyamany leg-ta</td>
</tr>
<tr>
<td></td>
<td>Locative Constructions</td>
<td>bite-TRN 3sg leg-LOC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘bite him on the leg’</td>
</tr>
<tr>
<td>D5</td>
<td>V&lt;sub&gt;impact&lt;/sub&gt; Pro&lt;sub&gt;Kro&lt;/sub&gt; NP&lt;sub&gt;head&lt;/sub&gt;-LOC</td>
<td>straikim imwartan-ta</td>
</tr>
<tr>
<td></td>
<td>Locative Constructions</td>
<td>strike-TRN 3sg arm-LOC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘strike him on the arm’</td>
</tr>
<tr>
<td>D6</td>
<td>V&lt;sub&gt;impact&lt;/sub&gt; NP&lt;sub&gt;head&lt;/sub&gt;-LOC</td>
<td>baitim wartan-ta</td>
</tr>
<tr>
<td></td>
<td>Locative Constructions</td>
<td>bite-TRN arm-LOC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘bite him on the arm’</td>
</tr>
<tr>
<td>E1</td>
<td>NP&lt;sub&gt;head&lt;/sub&gt; blanga NP</td>
<td>kimbibimbo Leyton</td>
</tr>
<tr>
<td></td>
<td>Possession Preposition</td>
<td>nappy 3sg PREP Leyton</td>
</tr>
<tr>
<td></td>
<td>Constructions</td>
<td>‘Leyton’s nappy’</td>
</tr>
<tr>
<td>E3</td>
<td>blanga NP NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>bla yu painting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PREP 2sg painting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘your painting’</td>
</tr>
</tbody>
</table>

An alternative explanation for the lack of these types of constructions may be found in the structure of Gurindji Kriol. As was noted in Section 2, Gurindji Kriol is a VP-NP split language, with Kriol setting its frame in the verbal domain, and Gurindji dominating the nominal domain. Possessive constructions occur within nominal structures, and therefore a Gurindji frame. Some Kriol influences can be observed such as the increasing loss of the inalienable distinction, however the dominance of Gurindji in the nominal domain might explain why Kriol constructions, such as (19) are strongly dispreferred.

#### 4.2.2 NP-DAT NP versus NP-ØNP constructions in GK

416 instances of NP-NP appositions were counted in the data. The majority of these types of constructions (73%) included a dative marker on the possessor, for example (20). Only 77 were recorded without dative morphology (21), suggesting that this construction is dispreferred. The following examples come from a card game designed to elicit animal body parts:
Age and inalienability related variables in the possessive constructions of two Australian mixed languages

(20) yu garram warlaku-yu minti? (A1)
2sg got.TRN dog-DAT bottom
'Do you have a dog's bottom?'

(21) yu-mob garram wirangpurru ngarlaka? (B1)
2sg-PLU got.TRN kangaroo head
'Has anyone got the kangaroo's head?'

Constructions such as (21) may indicate the remnants of the inalienable distinction found in Gurindji. Unlike example (20) which replicates the Gurindji alienable possessive construction (where the possessor, warlaku, and head, minti, constitute a possessor phrase which is a single argument of the verb), the GK possessive construction in (21) follows the Gurindji inalienable structure of external possession where the possessor, wirangpurru, may be analysed as a dependent of the verb 'garram' rather than the possessed, ngarlaka. Again we are not providing syntactic argumentation for this analysis rather extrapolating from similar analyses of these structures in other Australian languages. Moreover almost all of the zero marked apposition constructions involve nouns such as body parts which are marked as inalienable in Gurindji. The remaining nouns are 'house', 'name' and kinship relations which are found in alienable constructions in Gurindji. There are a number of possible explanations for presence of these examples in appositional constructions. Firstly, it could be that they are marked as alienable in Gurindji, and these constructions are not present in the Gurindji data to be discovered. Conceptually these nouns are possible candidates for alienable constructions and are marked as such in other languages. Secondly, the influence could come from Kriol. It was noted above that Kriol uses this type of appositional construction to mark kinship relationships and house ownership. The unmarked possessive structure of names could be the idiosyncratic result of repetitive school practices, or an influence from Warlipiri where yirdi, 'name', occurs in an inalienable structure. All of this is largely speculative, however it is certainly the case that there is also large number of examples of 'name' being used conjunction with a plain Kriol pronoun rather than a Gurindji dative pronoun. More of this will be discussed below. Nevertheless, not all examples of body parts, houses, names and kinship relationships are represented in this structure. The majority of these possessed NPs, including body parts, are found within dative possessive constructions, traditionally used to mark alienable relationships between entities.

If remnants of the Gurindji inalienable distinction do still exist, it would be more likely to be present in the utterances of older speakers of GK who also have access to Gurindji either as speakers or through a thorough passive knowledge. The chart below compares the use of NP-DAT NP constructions (A1) and NP NP constructions (B1) across GK speakers of different ages. NP-DAT NP constructions present as the dominant form across all age groups. Nearly a third of all appositional forms appear without the dative marker, however this proportion decreases significantly with age. For example only 9% of appositional forms appear in the utterances of school age children (6-15 yrs).

![Figure 4: Distribution of NP-DAT NP tokens](image)

The chart shows the percentage of inalienable and alienable possessive constructions across different age groups. The percentage of NP-DAT NP constructions is significantly higher in younger age groups compared to older age groups.uffed inalienable possessive constructions are present in nearly 30% of constructions in younger age groups, decreasing to 9% in older age groups. This trend indicates that the distinction between inalienable and alienable possessive constructions is being maintained even in younger age groups.
4.2.3 ProGurindji NP (A2) versus ProKriol NP (B2)

In the GK data, both Gurindji and Kriol pronouns appear in juxtaposition with an NP to indicate a relationship of possession. Examples of both forms are given below. The Gurindji pronouns follow the Gurindji dative set used in traditional Gurindji utterances, and the Kriol pronouns are the unmarked forms which appear in Kriol possessive constructions. The first example comes from a narrative prompted by stimulus material, and the second is directed at a 2 year old and occurred in conversation.

(22) dat karu-ngku bin maind-im-bat nyanuny kapaku (A2)
    that child-ERG PST mind-TRN-CONT 2sg.DAT sister
    ‘That kid was looking after his sister.’

(23) i bait-im yu mawul (B2)
    3sg bite-TRN 2sg penis
    ‘It will bite your penis.’

In all, 661 tokens of pronoun type constructions appeared in the data. 80.5% of these use the Gurindji dative pronoun, suggesting a strong preference for this construction. This preference is reflected in all of the age categories, as Figure 5 demonstrates.

![Figure 5: The distribution of Pro+NP structures according to language and age](image)

Though age does not seem to be a factor in the tendency to favour Gurindji dative pronouns, inalienability may again play a role. 79.7% of all tokens of inalienable NP heads in these possessive pronoun constructions were accompanied by unmarked Kriol pronouns rather than Gurindji dative pronouns. As we discussed above, unlike the Gurindji dative pronouns, these unmarked Kriol pronouns may represent cases of external possession as the pronouns dependents of the verb rather than the head of the possessor phrase. As with the NP-NP apposition constructions, there is a tendency for inalienable entities such as body parts to occur in these unmarked Kriol structures. Again it could be argued that the preference for these structures could be an influence from Gurindji, which uses similarly unmarked structures to indicate inalienable relationships. Interestingly, most of the counter examples of entities which would be marked alienable in Gurindji, include 'name', house ownership and kinship relationships, a pattern which was also observed in the NP-NP appositional constructions. Reasons for the inclusion of these entities were discussed above.

Some caution is needed with the claim that the Gurindji concept of inalienability is still present in the Kriol pronoun structures. Some of these tokens include utterances which could be construed as code-switching to Kriol rather than a
Age and inalienability related variables in the possessive constructions of two Australian mixed languages

GK structure. For example, several instances of ‘yu bingka’ (‘your hand’) and ‘yu ai’ (‘your eye’) occurred in child directed contexts. ‘Bingka’ and ‘ai’ come from Kriol/English and are not usually used to refer to these parts of the body by speakers of Gurindji Kriol. The Gurindji form wartum (‘hand’) and mila (‘eye’) are much more widespread even in child directed speech which uses more Kriol than peer directed speech. Examples such as these may actually constitute code-switching to Kriol rather than a GK construction. If this is the case, the use of ‘yu’ is related less to inalienability than to the Kriol frame used. However further evidence for the continuing presence of an inalienable distinction marked by Kriol pronouns may be found in the locative possessive construction which is only used to mark inalienable possession (Section 4.4.1).

4.3 Possessive allomorphy and constructions in Light Warlpiri

The contrasts in possessive constructions in LW are partially similar to and partially different from those in GK. Table 6 summarises the construction types available in LW.

<table>
<thead>
<tr>
<th>Type</th>
<th>Construction</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>NP-POSS (NP&lt;sub&gt;head&lt;/sub&gt;)</td>
<td>nyamptu-kang (car)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>this-poss (car)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘this one’s (car)’</td>
</tr>
<tr>
<td>A2</td>
<td>Possessive Constructions</td>
<td>ngaju-nyangu (car)</td>
</tr>
<tr>
<td></td>
<td>Pro-POSS (NP&lt;sub&gt;head&lt;/sub&gt;)</td>
<td>1sg-poss (car)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘my (car)’</td>
</tr>
<tr>
<td>A3</td>
<td>possessive Pro&lt;sub&gt;Kriol&lt;/sub&gt;</td>
<td>my daughter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/ is house / mine (NP)</td>
</tr>
<tr>
<td>B1</td>
<td>Apposition Constructions</td>
<td>jintu-ju + wirliya</td>
</tr>
<tr>
<td></td>
<td>NP-Ø NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>one-FOC leg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘this one’s leg’</td>
</tr>
<tr>
<td>B2</td>
<td>Pro+NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>you house</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘your house’</td>
</tr>
<tr>
<td>C1</td>
<td>Zero constructions</td>
<td>i-m kat-im pinisi-ng wirliya</td>
</tr>
<tr>
<td></td>
<td>Ø-NP&lt;sub&gt;head&lt;/sub&gt;</td>
<td>the fence cut (its) leg</td>
</tr>
<tr>
<td>D6</td>
<td>Locative constructions</td>
<td>V&lt;sub&gt;impact&lt;/sub&gt; NP&lt;sub&gt;head&lt;/sub&gt; LOC</td>
</tr>
<tr>
<td></td>
<td>3sg-NFUT bite-TR leg LOC</td>
<td>‘it bit (its) leg’</td>
</tr>
</tbody>
</table>

Table 6 shows that LW has slightly fewer types of possessive constructions available than does GK, but still has considerable variation. In categories A1 and A2, the LW head need not be lexicalised in the same clause as the possessor, or at all. This is the same as in Warlpiri.

Having seen the types of constructions available in Table 6, we now turn to their distribution. The distribution of LW forms can be categorised along two parameters. One is person and number of dependent NP. The other is the source language of the dependant NP vs that of the head NP. The source language of the dependent NP in turn determines whether the possessor occurs with or without a lexicalised head NP in the same clause.

4.3.1 Distribution of LW constructions by person and number of dependent NP

There are two kinds of Warlpiri case-marking forms in LW. One occurs on nouns, -kurlangu / -kirklangu, and is applied according to vowel harmony of the noun, and the other, -nyangu, occurs on free pronouns. The -kurlangu/-kirklangu forms are often pronounced without the final vowel. They are more often simplified to -kang in both Warlpiri and Light
Warlpiri, which dispenses with the need for vowel harmony. The LW possessive paradigm in terms of person and number of dependent NP is shown in Table 7.

**Table 7: Distribution of LW forms by person and number of dependent NP**

<table>
<thead>
<tr>
<th>Number</th>
<th>Source language of form</th>
<th>1st person</th>
<th>2nd person</th>
<th>3rd person</th>
</tr>
</thead>
<tbody>
<tr>
<td>singular</td>
<td>Warlpiri forms</td>
<td>pro-POSS</td>
<td>pro-POSS</td>
<td>pro-POSS</td>
</tr>
<tr>
<td></td>
<td>ngaju-nyang(u)</td>
<td>1sg-poss</td>
<td>nyan-nyang(u)</td>
<td>2sg-poss</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>singular</td>
<td>English/Kriol forms</td>
<td>possessive pro</td>
<td>bare pro: apposition</td>
<td>possessive pro</td>
</tr>
<tr>
<td></td>
<td></td>
<td>mine/my/ma</td>
<td>you</td>
<td>you</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dual</td>
<td>Warlpiri forms only</td>
<td>pro-POSS</td>
<td>not present</td>
<td>NP-POSS</td>
</tr>
<tr>
<td></td>
<td>ngaliyarr-kurlangu</td>
<td>1dl-inc-poss</td>
<td>in data set</td>
<td>jirrima-kurlangu(u)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>two-poss</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plural</td>
<td>Warlpiri forms only</td>
<td>pro-POSS</td>
<td>not present</td>
<td>NP-POSS</td>
</tr>
<tr>
<td></td>
<td>ngalpa-kang</td>
<td>1pl.inc-poss</td>
<td>in data set</td>
<td>Balgo mob-kang</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NP-poss</td>
</tr>
</tbody>
</table>

The three levels of shaded areas in Table 7 represent the distribution of the two kinds of Warlpiri possessive case-marking in LW, the -nyangu form and the -kurlangu/-kurlangu/-kang form. The nonshaded areas represent possessive marking from English/Kriol. The table shows that singular dependent NPs host forms from English/Kriol and Warlpiri. Plural dependent NPs only host the Warlpiri -kurlangu/-kurlangu/-kang form. There is a further distinction for number within these forms, in which dual dependent nouns and pronouns only take the longer -kurlangu/-kurlangu form, while plural dependent NPs take forms of both lengths, with a preference for the shorter -kang form. This distinction reflects the singular, dual and plural distinction of pronouns in Warlpiri, which is partially upheld in LW.

The distribution of Warlpiri forms in LW differs from that in Warlpiri, and is summarised in Table 8.

**Table 8: Change in distribution of possessive case-marker, from Warlpiri to LW**

<table>
<thead>
<tr>
<th>Possessive Form</th>
<th>Warlpiri</th>
<th>LW</th>
</tr>
</thead>
<tbody>
<tr>
<td>-nyangu</td>
<td>all pronouns</td>
<td>singular pronouns</td>
</tr>
<tr>
<td>-kurlangu</td>
<td>all nouns</td>
<td>nouns, plural pronouns</td>
</tr>
</tbody>
</table>

In Warlpiri the -nyangu form occurs on all pronouns regardless of person and number, but in LW it only occurs on singular pronouns. All other LW dependent NPs take the -kurlangu/-kurlangu/-kang form.

### 4.3.2 Distribution of LW forms by source language of head NP

The other parameter along which LW constructions are subcategorised is that of source language of the dependent vs head NPs. We will only analyse the forms for which there are a sufficient number of occurrences to warrant analysis, omitting other forms. For example, there are only four occurrences of third singular Warlpiri nyan-nyangu in the data, and only two occurrences of English 'your', so these are not included here.
Figure 6: Source language of possessive marker and head NP, LW

In Figure 6, percentages show relative occurrences of each combination of language of head and possessor. The number of tokens for each column is given in brackets. The label "no head" means no lexicalised head in the same clause as the possessive marker. The English/Kriol possessive markers occur mostly with a same language head NP, with the exception of 'mine', which has a fairly equal three-way distribution, between head NPs of each language, and with no lexical ised head in the same clause. In contrast, the Warlpiri possessive markers occur more often with no lexicalised head in the same clause, and are fairly evenly distributed between head NPs of each language. The first person singular markers from each source language ('mine' from English/Kriol and -nyangu from Warlpiri) have similar distributions of head NPs.

The distribution of each possessive marker in relation to each head can be explained in terms of the type of construction in which it typically occurs in the respective source languages. In English and Kriol 'mine' can occur without a lexical head NP English/Kriol 'his/is/my' need a different kind of construction, for example, 'it's his', or 'that's his', to occur without a lexical head NP, and this kind of construction is not common in LW, although it does occur sometimes with dat mine. In contrast, in Warlpiri the head NP need not be lexicalised and this is often the case in LW. Whether or not the dependent NP can occur without a lexical head NP does not affect the source language of either NP. Each logical combination of source language of dependent and head NP occurs in the data, but there is a strong preference for the English/Kriol possessive NPs 'my', 'is' and 'you' to occur with English/Kriol head NPs. This is perhaps a product of the pattern of Warlpiri-English/Kriol code-mixing which was conventionalised and became LW.

4.3.3 LW English/Kriol possessive constructions and inalienability

While the above categorisations do not compare directly with those of GK, there is one striking similarity with regard to the source language of the dependent NP. The English/Kriol possessors 'my', 'is', and 'you' mostly occur with head NPs such as body parts, the word 'house', and names and kinship terms. The same pattern occurs with Kriol possessors in GK, although GK uses unmarked Kriol pronouns rather than specific possessive pronouns. Interestingly neither Warlpiri nor Gurindji has inalienable constructions for nouns like 'house' nor for kinship relations. Of this set of words in Warlpiri, only the word for 'name', yirdi, occurs without some kind of overt marker. The pattern does not apply to the English/Kriol form 'mine', which, like the Warlpiri pronominal possessive forms, can occur in the clause without a lexicalised head NP, and occurs with a wider variety of head NP types.

In Figure 7, percentages show relative occurrences of each relationship type. Numbers of tokens are given in brackets. We see that the English/Kriol forms, 'my/ma', 'is' and 'you' occur almost entirely with head NPs that can be called inalienable. These are body part terms, kin terms, names, and terms for personal location, including 'house', 'place', 'area' and 'camp'. Head NPs in the alienable category include 'bike', words for dolls, toys, puzzle pieces, food, articles of clothing and money. In contrast, English/Kriol 'mine' and all Warlpiri possessive suffix forms occur with both alienable and inalienable types of possession, and also occur often without a lexical head NP. The category of 'other' includes constructions such as 'my fravit' (favourite) and 'my one'.

The page is well-structured and contains diagrams and figures that aid in understanding the possessive constructions and the distribution of markers across different languages. The text explains the patterns observed and compares them with other linguistic frameworks, providing insights into the linguistic landscape of these mixed languages.
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![Graph showing % occurrences of various possessive suffixes and types of possession]

Figure 7: % of inalienable type relationships between dependent and head NPs, by source language of possessive form

The following examples illustrate the two types of possessive relationship. Examples (24)-(26) show use of the Warlpiri possessive suffix forms and alienable possession.

(24) get-im cup **Nungarrayi-kirlang** kurnta-nga (A1)
get-TRN cup skin name-POSS shame-LOC
'Get the cup, it's Nungarrayi's, shame!'

(25) *ngana-kurlang?* maybe **Ayala-kang** pusher mayi? (A2, A1)
who-POSS maybe name-POSS pusher INTERR
'Whose is it? Maybe it's Ayala's pusher?'

(26) *ngaju-nyangu jirntu* jiki-wan (A2)
1sg-POSS dog cheeky-one
'My dog is aggressive.'

In examples (27) to (29), it could be argued that the language of the possessive pronouns mark inalienable relationships with the NPs 'house', 'mother' and 'name'.

(27) *my ouse i-m yinu-wana kankar.* (A3)
1sg-POSS house 3sg-NFUT DEM-PERL HIGH
'My house is along there up high.'

(28) nyampu i-m kiss-im is **mother-ng**
DEM 3sg-NFUT kiss-TRN POSS mother-ERG
'This one, his/her mother kissed him/her.' (A3)

(29) *Nangala* niya you name? yu-rra talk. (B2)
skin.name what you name you-FUT talk
'Nangala, what's your name? You say it.'

4.4 Locative Constructions in Gurindji Kriol and Light Warlpiri

4.4.1 Gurindji Kriol

The following locative constructions occur mostly with verbs of impact and violence such as 'strike' and 'bite', but also with other verbs (34). Four variations of the locative construction exist: (30) containing a Gurindji pronoun or dative-marked nominal; (31), (32) and (33), which can be grouped together as they contain an unmarked NP or unmarked Kriol pronoun. (The dative suffix on 'husband' in (34) is a result of the verb 'tok' not the possessive relationship between 'husband' and 'ear'). Example (33) contains both an unmarked Kriol pronoun and co-indexed plain NP. Examples such as
these probably belong to the same group as (32) and (33), as the NP in a topicalisation structure commonly found in both Gurindji Kriol and Kriol.

(30) dat babwaya-ngku i bin taking nyanuny leg-ta (D4)
that barbedwire-ERG 3sg PST stuck 3sg.DAT leg-LOC
'That barbed wire dug into his leg.'

(31) jinek-tu bait-im im fut-ta (D5)
snake-ERG bite-TRN 3sg foot-LOC
'The snake bites him on the foot.'

(32) dat jinek-tu im bait-im marluka leg-ta. (D5)
that snake-ERG 3sg bite-TRN old.man leg-LOC
'The snake, it bites the old man on the leg.'

(33) dat marluka, warilaku bin bait-im im leg-ta. (D5)
that old.man dog PST bite-TRN 3sg leg-LOC
'It was the old man that the dog bit (him) on the leg.'

(34) nyila-ngiyi im tok nyanuny ngumparna-wu na langa-ngka (D5)
that-SOURCE 3sg talk 3sg.DAT husband-DAT DIS ear-LOC.
'After that she talks to her husband, in his ear.'

The occurrence of locative possessive structures which use a Gurindji dative pronoun (30) is quite low (11% of all locative possessive structures). The unmarked structures (31)-(33) which resemble both the Gurundji locative construction and the Kriol/English prepositional construction are more common (89%). These possessive constructions are arguably cases of external possession as the possessor is no longer an argument of the head of the possessor phrase. It may be argued that the high use of these locative structures with the possessor as a dependent of the verb is an indicator of the continuation of the Gurundji inalienability distinction, however these structures are also used in Kriol/English with body part relations. More evidence is required to state the case conclusively. Examples which might constitute evidence are the locative structure being used for part-whole relations which exist in Gurundji and not English such as yarti (shadow). Moreover strong evidence for the absence of the inalienable Gurundji distinction between nouns in GK would be the use of this locative structure for English inalienable entities such as clothes. So far none of this evidence is available.

4.4.2 Light Warlpiri: locative constructions

In a similar way to GK constructions, LW possession can also involve a locative. This type of construction is possible but infrequent in Warlpiri (Simpson, p.c.), but in the LW data set occurs often. The construction differs from most locative GK constructions in that in LW the possessor is most often elided.

(35) rdaka-nga i-m bait-im (D6)
hand-LOC 3sg-NFUT bite-TRN
'It bit (him) on the hand/it bit his hand.'

(36) warliya-ng na i-m pantem-un wirliya-nga (D6)
thorn-ERG now 3sg-NFUT pierce-TRN leg-LOC
'The thorn now pierced (him) on the leg/pierced his leg.'

Each example involves a part-whole relationship of a person and body part. In all of the examples the person whose body part is affected is known from previous clauses so is not overtly mentioned in the same clause as the body part. In this kind of construction the focus is on the body part being named. This type of construction occurs in Warlpiri, but is not the preferred type (Hale 1981).
5. Conclusion

Both mixed languages, GK and LW, use possessive forms and constructions from their respective source languages. In some cases the construction in the Ngumpin-Yapa language has also undergone change, possibly under English and Kriol influence, so that it is not possible to tell whether the change progressed from the traditional language to the mixed language or in the other direction. While both mixed languages employ constructions from the respective source languages simultaneously, it is clear that in GK there is a preference for particular constructions on the part of younger speakers. In LW there is a preference for certain combinations of source language NPs, and a preference for the distribution of each type of construction and form. Interestingly, the two languages show variation in possessive constructions according to different parameters, despite the typological similarities of the contributing languages. In both GK and LW constructions with English/Kriol forms are used largely for inalienable relationships, while constructions with traditional language forms are used for both alienable and inalienable relationships.

Although speakers demonstrate a preference for particular structures in which the influence of the source languages is clear, there is evidence of innovation in the speech of young children in both languages. Parallel structures occur in both mixed languages, as in (37) from GK and (38) from LW.

(37) dats da ngayiny.
      that's the 1sg.DAT
      'that's mine'

(38) dat da main
      that the mine
      'that's mine'

The innovative structures cannot easily be attributed to the source languages. These distributions may indicate the route of further change and consolidation in each language.

Notes

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2. Word order in the constructions is relatively fixed for GK, LW and Kriol, but relatively free for Warlpiri and Gurindji possessive constructions.

Abbreviations

- second morpheme only occurs bound to first morpheme
1pl first person plural
1sg first person singular
2pl second person plural
2sg second person singular
3pl third person plural
3sg third person singular
ACC accusative case
ALL allative case
assoc associative
AUX auxiliary
CAT catalyst
CONJ conjunction
INTERR interrogative
LOC locative case
NAME word is a name
NEG negative
NFUT non-future
NP noun phrase
NPST nonpast
NUM number
PERL perlative case
plex plural exclusive
POSS possessive case
PREP preposition
PRO pronoun
PST past
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CONT continuous
DAT dative case
DEM demonstrative
DIS discourse marker
DISJ disjunction
ERG ergative case
FUT future
IMP imperative
REDUP reduplication
skin name subsection term
SOURCE source
topicaliser
TOP transitive
TRN transitive
V verb
word word both English words are needed for the gloss

References

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